

## CLAIMS

1) A method of determining the capillary pressure curve of rocks of an underground reservoir from measurements on cuttings taken therefrom, comprising measuring the permeability  $K$  of the cuttings, characterized in that it comprises :

- 5    - measuring the capillary pressure curve  $P_c$  as a function of the saturation by  
subjecting cuttings initially saturated with a fluid to centrifugation, and
- parametrizing a capillary pressure curve  $P_c$  satisfying empirical relations depending  
on adjustable parameters, constrained to adjust to an asymptotic part of the capillary  
curve measured by centrifugation, and to the value of permeability  $k$  measured on the  
10 cuttings, so as to obtain the whole of the capillary pressure curve.

2) A method as claimed in claim 1, characterized in that parametrizing comprises  
selecting by default a set of said parameters allowing calibration on the asymptotic part  
of the capillary pressure  $P_c$  with low saturations, and modifying the parameters step by  
step so that the estimation of the permeability given by one of the empirical relations  
15 used is best adjusted with the permeability measurements carried out on cuttings and  
with said asymptotic part.

3) A method as claimed in claim 1 or 2, characterized in that permeability  $k$  of the  
cuttings is measured from measurements of the pressure variations in a vessel filled  
with a fluid containing the cuttings after it has been communicated for a predetermined  
20 period of time with a tank containing the same fluid under pressure, and from the  
volume actually absorbed by the cuttings, and from modelling the evolution of the  
pressure or of the volume in the vessel, from initial values selected for the physical

parameters of the cuttings, which are iteratively adjusted so that the modelled pressure evolution best adjusts with the measured evolution of the physical parameters of the cuttings.